

carbon contained in the molded body to react on each other in the pores so as to produce silicon carbide.--

--13. The method for producing a silicon carbide sintered body according to claim 12, wherein an average grain size of the silicon carbide powder is 0.01 to 10 $\mu$ m.--

bc4 --14. The method for producing a silicon carbide sintered body according to claim 12, wherein the silicon carbide powder is obtained by a process for preparing silicon carbide powder, which process comprises:

producing silicon carbide powder by homogeneously mixing a silicon source comprising at least one selected from tetraalkoxysilane and polymers of tetraalkoxysilane, each of high purity, and a carbon source comprising an organic compound of high purity which generates carbon upon heating, and heating and firing the mixture in a non-oxidizing atmosphere; and

effecting post-treatment in which heat treatment with the obtained silicon carbide powder being kept at a temperature from equal to or higher than 1,700°C to lower than 2,000°C and being heated at a temperature between 2,000°C and 2,100°C for 5 to 20 minutes at least once.--

--15. The method for producing a silicon carbide sintered body according to claim 14, wherein the silicon source is a polymer of tetraalkoxysilane and the carbon source is a phenol resin.--

--16. The method for producing a silicon carbide sintered body according to claim 12, wherein the silicon carbide powder includes impurity elements of which each content is 0.5 ppm or less.--

--17. The method for producing a silicon carbide sintered body according to claim 12, wherein the step of calcination is carried out at temperature from 1500 to 1900°C.--